CLAIMS

What is claimed is:

1. A backplane apparatus comprising:

a common bus comprising a plurality of signal lines, each signal line of the common bus having a current limiting element, RA; and

isolation circuitry for electrically coupling each of the plurality of signal lines of the common bus to a corresponding plurality of signal lines of an electronic device to enable communication between the common bus and the electronic device through the isolation circuitry.

2. The apparatus of claim 1 further comprising:

a connector for removably coupling the plurality of signal lines of the electronic device to the plurality of signal lines of the common bus through the isolation circuitry.

3. The apparatus of claim 1 wherein the isolation circuitry for each signal line comprises an inline resistor, RD.

4. The apparatus of claim 3 wherein RD has a value in a range of approximately 1 KΩ to 25 KΩ.

5. The apparatus of claim 1 wherein isolation circuitry for at least one of the signal lines further comprises a pull up resistor.

6. The apparatus of claim 5 wherein the isolation circuitry further comprises an inline resistor, RD.

7. The apparatus of claim 6 wherein RA has a value in a range of approximately 10 Ω to 5 KΩ.

8. The apparatus of claim 1 wherein isolation circuitry for at least one signal line has no pull up resistor.

9. The apparatus of claim 1 wherein the isolation circuitry comprises passive components.

10. The apparatus of claim 1 wherein the isolation circuitry comprises active components.

11. The apparatus of claim 1 wherein the electronic device is a disk drive.

12. A backplane apparatus comprising:

a common bus comprising a plurality of signal lines, each signal line having a first current limiting element, RA; and

isolation circuitry electrically coupling each of the plurality of signal lines of the common bus to a corresponding plurality of electronic devices, each device having a corresponding plurality of signal lines to enable communication of signals between the common bus and each of the plurality of devices.

13. The apparatus of claim 12 further comprising:

a plurality of connectors for removably coupling the plurality of signal lines of each electronic device to the corresponding plurality of signal lines of the common bus through the isolation circuitry.

14. The apparatus of claim 12 wherein the isolation circuitry coupling the corresponding signal lines comprises an inline resistor, RD, for each signal line.

15. The apparatus of claim 14 wherein RD has a value in a range of approximately 1 KΩ to 25 KΩ.

16. The apparatus of claim 14 wherein isolation circuitry for at least one of the signal lines further comprises a pull up resistor.

17. The apparatus of claim 16 wherein RD has a value less than 1 KΩ.

18. The apparatus of claim 12 wherein RA for each selected signal line of the common bus is selected to have a value in a range of 10 Ω to 5 KΩ.

19. The apparatus of claim 12 wherein isolation circuitry for at least one signal line has no pull up resistor.

20. The apparatus of claim 12 wherein the electronic devices include disk drives.